REMARKS

This Amendment is in response to the Office Action of September 6, 2005 in which claims 1-5, 7-10 and 12-24 were rejected and in which claims 6 and 11 were objected to.

The subject matter of previous claim 3 has been incorporated into claim 1. A corresponding amendment has been made to each of the other independent claims (see claims 16, 19, 23 and 24). Applicants have also added new independent claims 25 to 34 which are directed to the subject matter which the Examiner indicated was allowable. In particular, new claims 25 to 29 each incorporate the subject matter of previous claims 3 and 6. New claims 30 to 34 each incorporate the subject matter of previous claims 3, 10 and 11.

In the Office Action, the Examiner objected to a number of the claims on file as being anticipated by Hayashi (US 5,978,428). Applicants believe that the amended set of claims is novel over Hayashi for the following reasons. Hayashi does not disclose the feature of previous claim 3, now incorporated into each of the independent claims, that the data frames are classified based on a power spectral density function estimate of the received transmission signal. Hayashi only discloses the use of average powers.

In Hayashi the average powers are calculated at certain timed instances, but Hayashi does not disclose calculations of true power spectral density. Although Hayashi mentions the term "power spectral density of the noise signal", this does not equate with a power spectral density function estimate of the received transmission signal. The basic concept of Hayashi is that by calculating the average power at a simple rate, the total received power (or power for data rate 1, if it is used) is obtained. By adding n succeeding symbols and then calculating average power at sample rate/n a power for data rate $1/n$ is obtained, if it is the one that is used. The noise power is calculated so that the possible signal power is subtracted from the total received power. D1 uses substantially rough estimates of powers according to a certain fixed data rate in the data rate determination. In contrast, in the present invention the data rates are classified based on a power spectral density function estimate of the received transmission signal. Thus according to the present invention,

a decision variable is used in the classification operation, namely the center-of-moment which characterizes the form of the distribution.

Thus applicants do not agree with the Examiner's objection that the subject matter of previous claim 3 is disclosed in Hayashi.

In view of the fact that Hayashi makes no suggestion that data frames can be classified based upon the power spectral density function estimate of the received transmission signal, it is submitted that the subject matter of the claims would not have been obvious to a skilled person in view of Hayashi.

Moreover, Ling (US 5,619,524) suggests nothing which is additionally relevant in this respect. Ling also does not disclose the feature of previous claim 3, which has now been incorporated into the independent claims.

The objections and rejections of the Office Action of September 6, 2005, having been obviated by amendment or shown to be inapplicable, withdrawal thereof is requested and passage of claims 1-2, 4-20, and 22-34 as amended to issue is solicited.

Respectfully submitted,

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